

## **REMARKS**

In the Office Action dated March 14, 2006, claims 1-3 and 15-22 of the present application were provisionally rejected on the basis of non-statutory obviousness-type double patenting, as being unpatentable over claims 1, 3, 4, 6, 8-11 and 13 of copending application Serial No. 10/432,970. This rejection is respectfully traversed because, in a Preliminary Amendment filed simultaneously with the original application papers in Serial No. 10/432,970, claims 1-13 thereof were cancelled, and a new set of claims 14-27 was filed. Nevertheless, Applicant assumes that the Examiner most likely would make the same double patenting rejection on the basis of at least some of the new claims of Serial No. 10/432,970, and therefore a Terminal Disclaimer to overcome that rejection is submitted herewith, accompanied by a check for the requisite fee in the amount of \$130.00

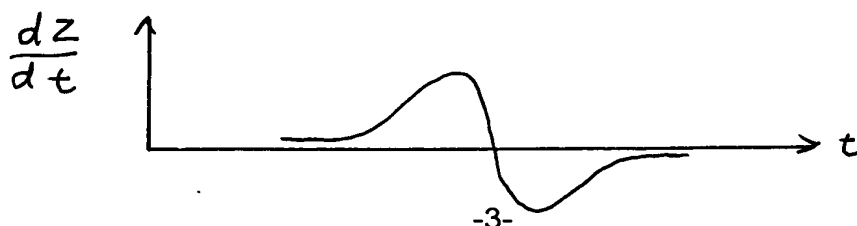
Additionally, claims 1-3 and 15-22 were rejected under 35 USC §103(a) as being unpatentable over Norén et al in view of an article entitled "Analysis of the O-Wave in Acute Right Ventricular Apex Impedance Measurements With a Standard Pacing Lead in Animals," by Järverud et al. This rejection is respectfully traversed for the following reasons.

In substantiating the rejection of claim 1 based on Norén et al in view of Järverud et al, the Examiner stated that the Norén et al reference discloses a pattern recognition unit (which the Examiner referred to as the comparator described at column 4, lines 29-43) that the Examiner stated compares the post-notch impedance curve with a stored impedance curved template to obtain a comparison result, and furthermore teaches detection of an ischemic heart disease from the comparison result. The Examiner acknowledged that the Norén et al reference does not disclose

that the impedance curve has a notch therein, but relied on the Järverud et al reference as providing such a teaching. The Examiner stated a person of ordinary skill would have found it obvious to focus on the notch, due to its diagnostic value in detecting ischemic heart disease.

In response, Applicant submits that there is a very good reason why the Norén et al reference does not disclose a notch in an impedance curve, and this is because the curve that is compared to the curved template in the Norén reference is *not* an impedance curve.

The curve shown in Figure 16 of the Norén et al reference, which is the curve that is compared to a stored template, is not an impedance curve, nor is it a curve of the first derivative of the impedance. Instead, the curve shown in Figure 16 is a plot of the impedance versus its own first derivative with respect to time, as explained in the paragraph beginning at column 12, line 7 of the Norén et al reference. Applicant acknowledges that the curve 162 is loosely referred to in the text of the Norén et al reference as an impedance derivative signal, but Applicant submits it is clear from the cited passage in the Norén et al reference that the curve 162 does not represent the impedance signal 161 shown in Figure 15, nor does it represent the rate of change of the impedance signal 161. The first derivative of the impedance  $Z$ , as noted by the Examiner, is  $dZ/dt$ , and it is this first derivative that serves as the vertical axis in the plot of Figure 16 of Norén et al. In fact, a curve for  $dZ/dt$  is nowhere shown in the Norén et al reference. Using the example of the impedance curve 161 shown in Figure 15, the curve  $dZ/dt$  therefor would be:



which clearly is not the circular plot 162 shown in Figure 16, nor is the circular plot 162 a curve of the actual impedance, despite the loose terminology used in the Norén et al reference. Since it is only this curve 162 in the Norén et al reference that is compared to a template, there is no comparison of the impedance curve 161 with a template in the Norén et al reference, nor is there a comparison of the first derivative with respect to time of the impedance curve with a template in the Norén et al reference.

Therefore, although the Norén et al reference does in fact detect the impedance curve, no comparison of the impedance curve itself with respect to a template is undertaken in the Norén et al reference, as required in claim 1 of the present application. Moreover, since it is the curve 162 shown in Figure 16 of Norén et al that is compared to a template, and since that curve is not the impedance curve, there is no identification of a notch in the impedance curve that takes place in the Norén et al reference, nor would identification of such a notch, for the purpose of identifying a post-notch portion of the impedance curve, serve any purpose in the Norén et al reference.

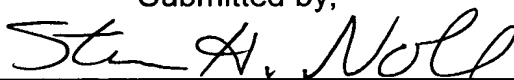
Therefore, even if the Examiner's statements regarding the teachings of the Järverud et al article are correct, those teachings have no use whatsoever in the Norén et al reference, because the Norén et al reference does not compare the impedance curve, with or without identification of such a notch, to a template for identifying an ischemic heart condition. No meaningful modification of the method or device disclosed in the Norén et al reference could be made based on the teachings of the Järverud et al article.

Claim 1, therefore, would not have been obvious to a person of ordinary skill in the field of detecting ischemic heart disease under the provisions of 35 U.S.C. §103(a) based on the teachings of Norén et al and Järverud et al. Claims 2, 3 and 15-22 add further structure to the non-obvious combination of claim 1, and therefore would not have been obvious to a person of ordinary skill in the field of detecting ischemic heart disease based on the teachings or Norén et al and Järverud et al, for the same reasons discussed above in connection with claim 1.

Applicant notes with appreciation that claims 4-14 were stated to be allowable if rewritten in independent form, however, all of those claims depend directly or indirectly from claim 1, and in view of Applicant's traversal of the rejection of claim 1, claims 4-14 have been retained in dependent form at this time.

All claims of the application are therefore submitted to be in condition for allowance, and early reconsideration of the application is respectfully requested.

Submitted by,



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